

CLAIMS

1. An apparatus for interfacing between on-board electronics in a vehicle and a radar device, said apparatus comprising:

a plurality of data busses for communicating between the apparatus and the on-board electronics, with each bus in said plurality of data busses configured for a different signaling protocol;

a data processor for determining the signaling protocol of the on-board electronics by activating at least one of said plurality of data busses and for selecting a data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

said data processor communicating with the on-board electronics on the selected data bus to receive data from the on-board electronics; and

said data processor translating the received data into a form compatible with said radar device and communicating the translated data to the radar device.

2. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 wherein said received data and said translated data are vehicle speed information.

3. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 further comprising:

a video surveillance system for taking images; and

a second data processor for receiving the translated data from said data processor and for communicating the translated data to said video surveillance system in a form for displaying or recording the translated data with said images.

4. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 3 wherein said translated data that is displayed with said images is vehicle speed information.

5. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 wherein one of said plurality of data busses is configured for signaling in the variable pulse width mode.

6. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 wherein another of said plurality of data busses is configured for signaling in the pulse width modulated mode.

7. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 wherein yet another of said plurality of data busses is configured for signaling in the ISO 9141 mode.

8. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 1 wherein yet another of said plurality of data busses is configured for signaling in the CAN 2.0B mode.

9. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 2 wherein said radar device has a moving mode and a stationary mode, said radar device automatically switching to the stationary mode if the vehicle speed information indicates that the speed of the vehicle is zero and automatically switching to the moving mode if the vehicle speed information is not zero.

10. An apparatus for interfacing between on-board electronics in a vehicle and a video surveillance system for taking images, said apparatus comprising:

a plurality of data busses for communicating between the apparatus and the on-board electronics, with each bus in said plurality of data busses configured for a different signaling protocol;

a data processor for determining the signaling protocol of the on-board electronics by activating at least one of said plurality of data busses and for selecting a data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

said data processor communicating with the on-board electronics on the selected data bus to receive data from the on-board electronics; and

said data processor translating the received data into a form compatible with said video surveillance system and communicating the translated data to the video surveillance system.

11. The apparatus for interfacing between on-board electronics in a vehicle and a video surveillance system as claimed in accordance with claim 10 further comprising:

a second data processor for receiving the translated data from said data processor and for communicating the translated data to said video surveillance system in a form for displaying or recording of the translated data with said images.

12. The apparatus for interfacing between on-board electronics in a vehicle and a video surveillance system as claimed in accordance with claim 10 wherein said received data and said translated data are vehicle speed information,

a camera of said video surveillance system has a field of view that is variable in response to said translated data whereby the field of view of the camera changes with the speed of the vehicle.

13. The apparatus for interfacing between on-board electronics in a vehicle and a camera as claimed in accordance with claim 12 wherein the field of view of the camera is narrowed in a plurality of steps as the speed of the vehicle increases from zero, with each of said steps associated with a range of speed of the vehicle.

14. A method of interfacing between the on-board electronics in a vehicle and a radar device with an interface apparatus having a data processor and a plurality of busses configured to operate with different signaling protocols, said method comprising the steps of:

activating at least one of the plurality of data busses to determine the signaling protocol of the on-board electronics;

selecting the data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

receiving data at the data processor over the selected data bus from the on-board electronics;

translating the received data into a form compatible with said radar device; and

communicating the translated data to said radar device.

15. The method of interfacing between the on-board electronics in a vehicle and a radar device as claimed in accordance with claim 14 wherein the step of selecting the data bus from a plurality of data busses includes the step of selecting a bus with a variable pulse width signaling protocol.

16. The method of interfacing between the on-board electronics in a vehicle and a radar device as claimed in accordance with claim 14 wherein the step of selecting the data bus from a plurality of data busses includes the step

of selecting a bus with a pulse width modulation signaling protocol.

17. The method of interfacing between the on-board electronics in a vehicle and a radar device as claimed in accordance with claim 14 wherein the step of selecting the data bus from a plurality of data busses includes the step of selecting a bus with an ISO 9141 signaling protocol.

18. The method of interfacing between the on-board electronics in a vehicle and a radar device as claimed in accordance with claim 14 wherein the step of selecting the data bus from a plurality of data busses includes the step of selecting a bus with a CAN 2.0B signaling protocol.

19. A method of interfacing between the on-board electronics in a vehicle and a video surveillance system for taking images with an interface apparatus having a data processor and a plurality of data busses configured to operate with different signaling protocols, said method comprising the steps of:

activating at least one of the plurality of data busses to determine the signaling protocol of the on-board electronics;

selecting the data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

receiving data at the data processor over the selected data bus from the on-board electronics;

translating the received data into a form compatible with said video surveillance system;

communicating the translated data to said video surveillance system; and

displaying of the translated data with said images of the video surveillance system.

20. A method of interfacing between the on-board electronics in a vehicle and a video surveillance system for taking images with an interface apparatus having a data processor and a plurality of data busses configured to operate with different signaling protocols, said method comprising the steps of:

activating at least one of the plurality of data busses to determine the signaling protocol of the on-board electronics;

selecting the data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

receiving data at the data processor over the selected data bus from the on-board electronics;

translating the received data into a form compatible with said video surveillance system;

communicating the translated data to said video surveillance system; and

recording of the translated data and said images of the video surveillance system.

21. An apparatus for interfacing between on-board electronics in a vehicle and a radar device, said apparatus comprising:

a data bus for communicating between the apparatus and the on-board electronics;

a data processor for communicating with the on-board electronics on the data bus to receive data from the on-board electronics; and

said data processor translating the received data into a form compatible with said radar device and communicating the translated data to the radar device.

22. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 21 wherein said received data and said translated data are vehicle speed information.

23. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in accordance with claim 21 further comprising:

a video surveillance system for taking images; and

a second data processor for receiving the translated data from said data processor and for communicating the translated data to said video surveillance system in a form for displaying or recording of the translated data with said images.

24. The apparatus for interfacing between on-board electronics in a vehicle and a radar device as claimed in

accordance with claim 21 wherein said translated data that is displayed with said images is vehicle speed information.

25. A method of interfacing between the on-board electronics in a vehicle and a radar device with an interface apparatus having a data processor and a data bus for communicating between said data processor and the on-board electronics, said method comprising the steps of:

receiving data at the data processor over the data bus from the on-board electronics;

translating the received data into a form compatible with said radar device; and

communicating the translated data to said radar device.

26. A method of interfacing between the on-board electronics in a vehicle and a video surveillance system for taking images with an interface apparatus having a data processor and a data bus for communicating between said data processor and the on-board electronics, said method comprising the steps of:

receiving data at the data processor over the data bus from the on-board electronics;

translating the received data into a form compatible with said camera;

communicating the translated data to said video surveillance system; and

displaying of the translated data with said images of the video surveillance system.

27. A method of interfacing between the on-board electronics in a vehicle and a video surveillance system for taking images with an interface apparatus having a data processor and a data bus for communicating between said data processor and the on-board electronics, said method comprising the steps of:

receiving data at the data processor over the data bus from the on-board electronics;

translating the received data into a form compatible with said camera;

communicating the translated data to said video surveillance system; and

recording of the translated data and said images of the video surveillance system.

28. A method of interfacing between the on-board electronics in a vehicle and a video surveillance system for taking images with an interface apparatus having a data processor and a data bus for communicating between said data processor and the on-board electronics, said method comprising the steps of:

receiving data at the data processor over the data bus from the on-board electronics;

translating the received data into a form compatible with said video surveillance system;

communicating the translated data to said video surveillance system; and

using the translated data to control the field of view of a camera of the video surveillance system.

29. The method of interfacing between the on-board electronics in a vehicle and a video surveillance system as claimed in accordance with claim 28 wherein the step of using the translated data to control the field of view of the camera includes the step of:

narrowing the field of view of the camera at higher vehicle speeds.

30. The method of interfacing between the on-board electronics in a vehicle and a video surveillance system as claimed in accordance with claim 28 wherein the step of using the translated data to control the field of view of the camera includes the step of:

narrowing the field of view of the camera in a plurality of steps as the speed of the vehicle increases from zero, with each of said steps associated with a range of speed of the vehicle.

31. The method of interfacing between the on-board electronics in a vehicle and a video surveillance system as claimed in accordance with claim 30 wherein the step of narrowing the field of view of the camera in a plurality of steps includes the step of:

changing the field of view of the camera to an adjacent step when the speed of the vehicle changes to a different range of speed.

32. An apparatus for interfacing with on-board electronics in a patrol vehicle, said apparatus comprising:

a radar device for determining the speed of a target vehicle;

a plurality of data busses for communicating between the apparatus and the on-board electronics, with each bus in said plurality of data busses configured for a different signaling protocol;

a data processor for determining the signaling protocol of the on-board electronics by activating at least one of said plurality of data busses and for selecting a data bus from the plurality of data busses with a signaling protocol that is compatible with the signaling protocol of the on-board electronics;

said data processor communicating with the on-board electronics on the selected data bus to receive data from the on-board electronics;

said data processor translating the received data into a form compatible with said radar device and communicating the translated data to the radar device; and

said radar device using the translated data to determine the speed of the patrol vehicle and using the speed of the patrol vehicle in determining the speed of the target vehicle.

33. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 wherein said received data and said translated data are vehicle speed information.

34. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 further comprising:

a video surveillance system for taking images; and

a second data processor for receiving the translated data from said data processor and for communicating the translated data to said video surveillance system in a form for displaying or recording the translated data with said images.

35. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 34 wherein said translated data that is displayed with said images is vehicle speed information.

36. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 wherein one of said plurality of data busses is configured for signaling in the variable pulse width mode.

37. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 wherein another of said plurality of data busses is configured for signaling in the pulse width modulated mode.

38. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 wherein yet another of said plurality of data busses is configured for signaling in the ISO 9141 mode.

39. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 32 wherein yet another of said plurality of data busses is configured for signaling in the CAN 2.0B mode.

40. The apparatus for interfacing with on-board electronics in a patrol vehicle as claimed in accordance with claim 33 wherein said radar device has a moving mode and a stationary mode, said radar device automatically switching to the stationary mode if the vehicle speed information indicates that the speed of the vehicle is zero or automatically switching to the moving mode if the vehicle speed information is not zero.